PLATINUM PERSPECTIVES

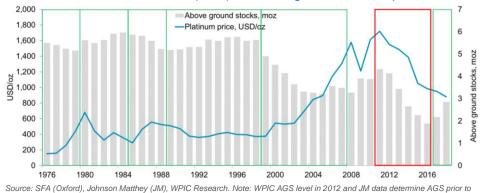
Changes in platinum's Above Ground Stocks increase insight into its (under-) valuation

The WPIC defines **Above Ground Stocks (AGS)** as the *year-end* estimate of cumulative platinum holdings not associated with ETFs, metal held by exchanges or working inventories of mining producers, refiners, fabricators or end-users. This definition is intended to specifically isolate the unpublished vaulted metal holdings from which a supply-demand deficit can be readily supplied, or to which a supply-demand surplus can readily flow. The flow of this metal is how the market clears or balances at spot metal prices. The WPIC first published its AGS estimate of 4.14 moz as at the end of 2012; currently **2.85 moz as at the end of 2018**.

Unfortunately, different definitions from several market participants and commentators result in a wide range of AGS estimates. Some definitions include unpublished estimates of automotive, jewellery and industrial manufacturer stocks. Several AGS definitions include holdings of all physically backed ETFs (3.15 moz at end July 2019) and some place all investment demand, including retail bars and coins in AGS. Clearly this results in differences in annual flows and balances as well as absolute AGS levels across the definitions.

The chart below analyses the WPIC AGS over time, back to 1975. **AGS** levels are now near their lowest in 45 years. The periods highlighted in green show expected behaviours where rising AGS is associated with surpluses and falling price and falling AGS with deficits and rising price. The period in the red box shows the anomaly where falling AGS saw falling price. Here negative sentiment led to sales from AGS that depressed price. Platinum's current level of AGS cannot easily be described as excessive, nor as a market overhang.

Platinum Above Ground Stocks (AGS) and average annual metal price



Palladium did not suffer a similar sustained anomaly. During the seven consecutive palladium deficits since 2012, published by Johnson Matthey, the palladium price rose from \$648/oz in 2012 to \$1,038 /oz in 2018 (Figure 4 next page). Palladium's AGS (defined in the same manner as WPIC platinum AGS and that supplied the palladium deficits) was 4.84 moz

platinum AGS and that supplied the palladium deficits) was 4.84 moz higher in 2012 than in 2018. The absolute size of palladium's AGS did not deter investors who focussed more on palladium's demand growth.

Demand growth potential is a more likely driver of platinum price now. For example, a 4% increase in European diesel market share would add c.100 koz pa, platinum substitution for 5% of automotive palladium would add c.400 koz pa on top of investment demand of near 1 moz this year. Above Ground Stocks remain a natural part of the physical metal market. As such, they have not proved an impediment to higher prices for palladium and nor should they for platinum.

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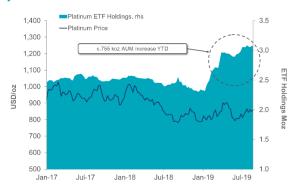
The propensity of holders of unpublished AGS to sell or buy can influence market price.

Platinum ETF buying of 755 koz in 2019 has tightened the physical market, making holders of unpublished AGS less likely to sell.

Platinum's attraction as an investment asset arises from:

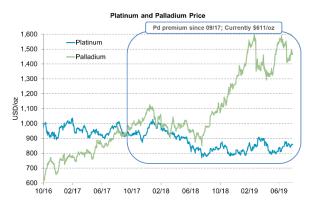
- Supply is relatively constrained with limited investment in new platinum group metal (PGM) mines
- Platinum price is near all-time lows relative to gold and palladium
- Total PGM demand growth should continue due to increasingly restrictive emissions rules
- Market balance mismatches between palladium and platinum argues for substitution
- Investment demand has surged as institutions begin to factor low price and positive fundamental outlook

Figure 1: Platinum's ETF holdings increased by 755 koz year-to-date



Source: Bloomberg, WPIC Research, as at 23 August 2019

Figure 3: Palladium's price premium to platinum reflects a tight market and highlights the potential for substitution



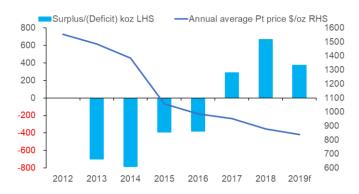
Source: Bloomberg, WPIC Research, as at 26 August 2019

Figure 5: As with platinum's deep discount to palladium, the discount to gold has recently widened to \$675/oz



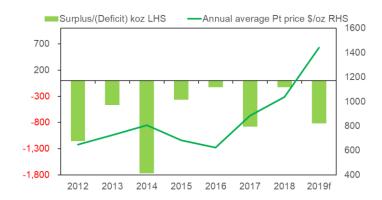
Source: Bloomberg, WPIC Research, as at 26 August 2019

Figure 2: Platinum annual market balance and average metal price



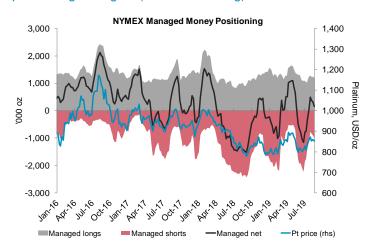
Source: SFA Oxford, WPIC research, as at 26 August 2019

Figure 4: Palladium annual market balance and average metal price



Source: Johnson Matthey, SFA, WPIC Research, as at 26 August 2019

Figure 6: NYMEX positioning shows stable short- and long positioning in August (net 152 koz long)



Source: Bloomberg, WPIC Research, as at 20 August 2019

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